

RECEIVED BY
ATT 30.0001

CLAIMS:

1. An authentication system for authenticating a user's signature as electronically inputted into the system by a manual input device providing an output indicative of its location with respect to time when manipulated by the user, the system comprising:

- (a) extraction means for extracting angle and distance data relating different parts of the user's signature inputted into the system by the manual input device;
- (b) reference means for storing corresponding angle and distance data relating to a reference signature;
- (c) comparison means for comparing the data extracted by the extraction means to the reference data stored by the reference means; and
- (d) verification means for providing an output indicative of an appropriate match between the inputted signature and the reference signature in dependence on the result of the comparison, thereby providing verification of the user's signature.

2. A system according to claim 1, wherein the extraction means is adapted to extract data relating to a plurality of different points of the user's signature including data relating some of said points to other points in the user's signature as inputted into the system by the manual input device.

3. A system according to claim 2, wherein the extraction means is adapted to extract data relating to a plurality of different points of the user's signature including data relating each of a number of said points to an immediately preceding point in the user's signature as inputted into the system by the manual input device.

4. A system according to claim 2 or 3, wherein the extraction means is adapted to extract information relating to a plurality of different points of the user's signature

including data relating a last point to a first point in the user's signature as inputted into the system by the manual input device.

5. A system according to any preceding claim, wherein the extraction means includes angle extract means for extracting angle data concerning the relative angular positions of a plurality of points of the user's signature.

6. A system according to any preceding claim, wherein the extraction means includes distance extract means for extracting distance data concerning the relative distances apart of a plurality of points of the user's signature.

7. A system according to any preceding claim, wherein the extraction means includes timing extract means for extracting timing data indicative of the relative times between execution of different parts of the user's signature, and the comparison means is adapted to compare the extracted timing data with reference timing data stored by the reference means.

8. A system according to any preceding claim, wherein password verification means is provided for verifying input of a required password, as determined by reference password means, by the user using a keyboard input device.

9. A system according to claim 8, wherein timing verification means is provided for verifying input of the password by the user with the required timing, as determined by reference timing means, using the keyboard input device.

10. A system according to claim 9, wherein the timing verification means includes means for verifying the hold times for which the relevant keys of the keyboard input device are depressed during input of the password, and means for verifying the latency times between the release of one key and the depression of the following key during use of the keyboard input device to enter the password.

11. A system according to any preceding claim, wherein user name input means is provided for receiving a user name inputted into the system to identify the identity of the user for the purposes of selection of the required verification data for that user.

12. A system according to any preceding claim, wherein the comparison means incorporates at least one neural network for determining the selection criteria by which a match is to be judged.

13. A system according to any preceding claim, wherein registration means is provided for setting up of a reference data file compiled from data inputted into the system by the user during a registration phase.

14. A system according to any preceding claim, wherein training means is provided for training the system to refine the selection criteria by which a match is to be judged on the basis of data inputted into the system by the user during a registration phase and generated false and generated true samples